Amendments to the Specification

Please replace the header at page 12, line 1 of the specification, with the following header:

***Figure 1A-1H*[[*C*]].**

Please replace the header at page 12, line 15 of the specification, with the following header:

***Figure 2A-2D*[[*E*]].**

Please replace the header at page 13, line 17 of the specification, with the following header:

***Figure 5A-5E*[[*D*]].**

Please replace the header at page 13, line 23 of the specification, with the following header:

Figure 6A-C.

Please delete the paragraphs beginning with "***Figure 10"*** at page 17, line 10 of the specification through page 18, line 14, prior to the ***Detailed Description of the Invention*** section.

Please replace the abstract beginning on page 168, with the following abstract:

The invention relates generally to the Jak family of kinases. This includes the DNA and amino acid sequences for Jak 3 kinases. Additionally, the invention concerns expression vectors comprising DNA sequences encoding a Jak 3 kinase and host cell containing such expression vectors.

Please replace the paragraph beginning on page 117, line 15 with the following paragraph:

Previously PCR approaches were used to identify protein tyrosine kinases in breast cancer cell lines (Cance *et al.*, *Int. J. Cancer* 54:571-577 (1993)) from which a cDNA fragment was obtained that encoded a novel Jak family member. The same kinase was recently detected by PCR in rat hippocampal neurons (Sanchez *et al.*, *Proc. Natl. Acad. Sci.* USA 91: 1819-1823 (1994)). Using the fragment from breast cancer cell lines, we obtained four overlapping cDNA clones from a murine B-cell cDNA library. The longest cDNA was 3.8 kb (JAK 3 Kinase Plasmid DNA in pBluescript SK +/- (pBSK)) deposited at the American Type Culture Collection, Manassas, VA on February 7, 2000 and assigned number PTA-1338 and contained a long open reading frame which would encode a protein with 1099 amino acids and a predicted size of 122.6 kDa. The predicted sequence (Fig. 6) is highly related to the Jaks and was termed Jak3. Murine Jak3 is 47%, 36% and 36% identical to amino acids in murine Jak2, murine Jak1 and human Tyk2 respectively. Jak3 contained atypical protein tyrosine kinase catalytic

domain as well as an amino terminal kinase-like domain. In addition, there are blocks of similarity between Jak3 and the other Jak family members in the amino terminal region.